

U.S. Agency for International Development
Latin America and Caribbean Bureau

Final Report:
Implementation of Cleaner Production Strategy

Contract No. LAG-I-00-99-00019-00

Task Order No. 01

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Prepared by PA Government Services

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Objective:

This task order will allow USAID's Latin American and Caribbean (LAC) Bureau continue its previous work in promoting cleaner production (CP) throughout the LAC region. The focus for Fiscal Year 2000 will be on establishing local institutions and programs that will increase the likelihood that LAC countries will incorporate the principles and practices of pollution prevention and energy efficiency, including pollution prevention and control, into their legal and policy frameworks and their long term programs.

Contract Issues:

PA and USAID agreed to contract modifications that revised some of the deliverables and extended the period of performance through 27 May 2002. This was necessary in order to re-orient the task toward more specific targets that leveraged Mission and other donor activities, as well as to provide additional time for the Environmental Law Institute to complete deliverables under Task 5. PA also used the extension to improve the quality and quantity of deliverables. PA completed much of the task in the latter half of the period of performance given the acquisition of Hagler Bailly by PA Consulting Group in October 2000, and key staffing changes at Concurrent Technologies Corporation, which significantly reduced their involvement.

Accomplishments and Recommendations:

Task 1: Continue supporting the development of the revolving loan funds for Andean cleaner production in Bolivia, Ecuador and Peru

IDENTIFY SOURCES OF FUNDING FOR CLEANER PRODUCTION IN LAC REGION AND PRODUCE A REPORT ON INVESTMENT FACTORS FOR CONSIDERATION IN FINANCING

PA Government Services submitted the documents "Potential Donors List" and "Detail Summary List of Potential Funding Sources," prepared by Concurrent Technologies Corporation (CTC) in July and November 2001, respectively. These documents provide a list of institutions whose mandate makes them candidates potentially willing to support cleaner production centers (CPCs). The document includes commercial banks, multilateral development banks, international organizations, foundations, and other organizations. As follow-up, USAID/LAC and PA determined to focus attention on establishing the DCA loan guarantee facility for Peru, and assisting the Bolivia and Peru CPCs to solicit funding from the Inter-American Development Bank's (IDB) Multilateral Investment Fund (MIF). As such, these documents will continue to serve as a starting point for new funding searches to support the cleaner production centers.

In addition, on 4-5 October 2001 PA attended the *New Venture's Investor Forum* in Angra dos Reis, Brazil to meet with environmental finance representatives to consider

best approaches to financing cleaner production projects and learn about existing environmental financing initiatives. The program included participation from venture capitalists, bankers, entrepreneurs, environmentalists, and others. Key information gleaned from this event was consolidated into a summary report with recommendations in the document “Factors for Consideration in Environmental Financing,” submitted to USAID on 20 December 2001.

PURSUE SOLUTIONS TO CP FINANCING BARRIERS IN PERU AND BOLIVIA

1. Development Credit Authority – Peru

Under this task, PA collaborated with USAID/Peru and the Office of Development Credit (ODC) to create a Development Credit Authority (DCA) loan guarantee facility for cleaner technology investments, targeted toward small and medium-sized Peruvian enterprises. PA developed the economic assessment, financial viability assessment, and financial monitoring plan, along with attachments to reference illustrative case studies and expected project cash flows. ODC prepared the associated risk assessment for the project. On behalf of USAID/LAC and USAID/Peru, on 11 April 2002 PA staff presented the proposal before the Credit Review Board, which was subsequently approved.

PA worked with partners in Peru to determine an appropriate financial intermediary, which resulted in a relationship with Banco de Crédito del Perú, the nation’s largest bank. Banco de Crédito has one-third of its portfolio oriented toward industrial clients, and is seeking to attract smaller firms. PA also drafted eligibility criteria and ensured coordination between USAID contracts, the Mission, LAC Bureau, Banco de Crédito, and the Centro de Eficiencia Tecnológica.

At the invitation of USAID/Peru, PA officially announced the guarantee fund during a series of presentations in Lima from 24-26 April 2002, beginning with CONAM’s EcoDiálogo conference, a national environmental event with over 700 attendees. PA delivered the presentation “Financiando Producción Más Limpia: Un Reto para Latinoamérica” at four venues. These included EcoDiálogo, the Pontificia Universidad Católica, Universidad de Lima, and the Universidad del Pacífico (Interpraxis), the latter of which was televised locally and rebroadcast multiple times during May 2002.

2. Inter-American Development Bank – Bolivia and Peru

PA provided guidance and assistance to the Centro de Eficiencia Tecnológica-Perú (CET) and the Centro de Promoción de Tecnologías Sostenibles-Bolivia (CPTS) in developing compelling proposals to the Multilateral Investment Fund (MIF) of the Inter-American Development Bank. This is part of PA’s effort to generally pursue means to strengthen these CP programs and leverage USAID’s resources to attract other donors. Each center sent draft proposals to the MIF in Washington for

comment. Both centers expect to submit final proposals to their respective in-country MIF representatives in June or July 2002. The key pending issue is for CET and CPTS to become legally independent organizations in their respective countries, a MIF requirement for issuing a grant.

3. World Bank – Bolivia

PA assisted CPTS in approaching the World Bank to extend an existing but underutilized biomass fund in Bolivia to allow eligibility for cleaner production projects. The addendum to the agreement was signed in October 2001 and enables firms to seek cleaner production financing from this US\$1 million facility. Of this amount, \$800,000 was provided by the International Development Association (IDA) of the World Bank, and \$200,000 was provided by Fundapro, a Bolivian second tier bank. Another \$250,000 is expected to become available from Phase Two of the World Bank's ESMAP country program. To date the fund has approved six projects involving approximately 35 rural companies, representing a total of \$400,000. Another nine projects are in the pipeline, including one for cleaner production at a winery. CPTS is currently preparing cleaner production project proposals for five companies: two tanneries, one meat processor, and two slaughterhouses (one poultry and one beef).

MAINTAIN LINKS AND COMMUNICATION WITH COMARA TO SHARE LESSONS AND EXPERIENCES

PA maintained communication with the COMARA partners in Bolivia, Ecuador, and Peru by email, and also met with several of them directly during country visits. PA kept them informed about developments with the DCA fund in Peru, the World Bank fund in Bolivia, as well as the efforts to obtain funding for Bolivia and Peru from the MIF. These linkages enabled effective information dissemination and also served as a means to consider new opportunities for collaboration.

ADDITIONAL ACCOMPLISHMENTS

- PA kept USAID/LAC informed about CP institutional developments in the Andean region. Most notably, this included the creation of a new CPC, Center for Technological Efficiency (CET) in Peru in October 2001, but also included information about new and ongoing activities at CPTS in Bolivia, and developments at the Ecuadorian Center for Cleaner Production.
- At the request of USAID/LAC, PA researched and assembled a table of data noting sources of funding for the cleaner production centers in the LAC region, including Central and South America.
- At the request of USAID/Peru, and through their funding, PA participated in the conference, *Red de Producción Más Limpia de Latinoamérica y el Caribe* in

Cartagena, Colombia from 16-17 October 2001. Directors of cleaner production centers from throughout Latin America attended this event. PA gave a joint presentation with USAID/Peru to provide an overview of USAID's activities supporting cleaner production in the LAC region, and highlighting the new CEPCOM project in Peru and plans for the DCA loan guarantee facility.

- From 30-31 October 2001, PA hosted a small cleaner production strategy session at its offices in Washington, D.C. to discuss barriers and new solutions to implementing successful CP programs. Attendees included the CPC directors from Bolivia and Colombia, USAID/LAC, and PA staff and consultants.
- With USAID/Bolivia funds, PA facilitated a visit by Carlos Arze to Washington, D.C. during the last week of October 2001 through funds from USAID/Bolivia. PA collaborated with USAID/Global and USAID/LAC to co-host a brown bag lunch at USAID to share the many successes dating since the start of the Environmental Pollution Prevention Project (EP3) in Bolivia in 1995.
- At USAID's request, PA responded to a formal inquiry from the United Nations Environment Programme (UNEP) related to USAID's efforts supporting financing for cleaner production projects. PA updated UNEP regarding the original COMARA effort in the Andean region, now refocused toward creating the loan guarantee facility in Peru, and leveraging the World Bank Biomass Fund in Bolivia to include cleaner production projects. Responses will form part of an in-depth survey being conducted by UNEP on financing cleaner production. The document is expected to be published in late 2002.

RECOMMENDATIONS AND LESSONS LEARNED

With guidance from the LAC Bureau, PA oriented this task toward achieving one successful financing agreement in the Andean region. As such, PA directed significant resources under this task (while leveraging USAID/Peru funds) toward establishing a DCA loan guarantee for cleaner technology investments in Peru. PA believes that this was a well-conceived approach rather than spending time developing multiple proposals for organizations not necessarily familiar with USAID and its cleaner production counterparts in the Andean region. This was a much more targeted approach to successfully deploy a financing mechanism.

The other key opportunity was leveraging the World Bank Biomass Fund in Bolivia to expand the biomass focus to include cleaner technology investments. These are important lessons for USAID considering that seeking support from donors to capitalize a fund is a particularly challenging undertaking. One of the particularly promising aspects of both the DCA guarantee and the World Bank fund is that the line of credit to end users comes from local commercial banks. This is precisely the means to introduce such institutions to the profitability of cleaner technology investments, and thereby encourage banks to create their own credit lines for these types of loans.

It will be important to follow the monitoring of the DCA guarantee portfolio to learn from its successes and shortcomings, and consider opportunities to replicate this innovative model elsewhere in the region and world. While the guarantee has been created, USAID must consider the utilization levels of the credit line, and whether the incentive provided by the guarantee is sufficient for the bank to extend attractive loan terms that continues to generate demand by businesses.

Separately, while PA maintained links and communication with COMARA partners to share new developments related to the DCA guarantee in Peru and other efforts, the value of maintaining this committee as a formal entity is less clear now that Cleaner Production Centers exist in all three countries, Bolivia, Ecuador, and Peru. Indeed, when COMARA was formed in 1999, only Bolivia had a CPC. In truth, all of the COMARA member institutions have direct links with their respective national CPCs, and it is primarily the CPCs that USAID seeks to support. For this reason, and given limited USAID resources, PA recommends re-orienting communication efforts to better link the CPCs in the region rather than the chambers of industry. In this way, USAID can continue to leverage the COMARA links within the context of USAID's relationships with each CPC.

KEY DELIVERABLES:

1. Potential Donors List
2. Detail Summary List of Potential Funding Sources
3. More Foundations
4. Economic Analysis, Financial Viability Analyses, and Financial Monitoring Plan for Peru's DCA
5. Presentation of the DCA proposal to the Credit Review Board, 11 April 2002
6. Proposals for the CPCs in Bolivia and Peru to MIF
7. Report: Factors for Consideration in Environmental Financing
8. Presentation: *Financiando Producción Más Limpia: Un Reto para Latinoamérica* delivered at CONAM's EcoDiálogo and three other venues in Lima, Peru, 24-26 April 2002
9. Prepared and co-presented presentation, "El Papel de USAID en el Apoyo a la Producción Más Limpia en América Latina," delivered by Edilberto Alarcón, USAID/Peru and Walter E. Weaver, PA Consulting Group at the United Nations Industrial Development Organization (UNIDO) and Centro Nacional de Producción Más Limpia (Colombia) conference, *Red de Producción Más Limpia de Latinoamérica y el Caribe*. Cartagena, Colombia, 16-17 October 2001.
10. Trip reports

Task 2: Recommend a cleaner production strategy in Central America, and build awareness about cleaner production in Central America

WHITE PAPER ON CLEANER PRODUCTION IN CENTRAL AMERICA

In July 2001, PA participated in a Central American regional meeting of the cleaner production centers in Guatemala City. PA also met with a UNEP representative to learn about their pilot program addressing barriers to CP financing in Guatemala and four other countries worldwide. Under the context of G-CAP priorities, PROARCA efforts, as well as LAC and Global Bureau interest to support CP regionally, PA submitted a white paper on cleaner production in the region, *Discussion Paper: Cleaner Production in Central America*. The document is primarily based on the Guatemala City meeting and studies developed by each of the cleaner production centers in the region for G-CAP. It includes a summary of international donor activities related to CP, priority sectors for each country as well as the region, key actors in CP including their strengths and weaknesses, issues related to CP financing, among other information.

The document was most valuable to G-CAP and contractors initiating the new regional PROARCA II project. ARD included the document as reference and background material for staff launching the new initiative, and numerous times noted its usefulness in orienting staff and developing the new program.

CLEANER PRODUCTION POLICY WORKSHOP

PA collaborated with the Organization of American States/Inter-American Forum on Environmental Law (OAS/FIDA) along with USAID/G/ENV to develop a Central America workshop on cleaner production/energy efficiency policy: *Taller Regional "Políticas de Producción Más Limpia y Eficiencia Energética en Centroamérica"* 21-22 March 2002 in Managua, Nicaragua. The program was developed as a regional forum to assess the state of cleaner production and energy efficiency (CP/EE) policy in each country, and determine appropriate next steps to support stronger incentives to promote CP/EE approaches. It was also an opportunity to encourage greater dialogue between the public and private sectors.

OAS/FIDA coordinated participation of decision makers from six Central American countries (excluding Belize) with support from the Central American Commission for Environment and Development (CCAD), while PA coordinated the participation of private sector representatives such as cleaner production centers, chambers of industry, and private companies. As a preliminary result, PA and OAS/FIDA felt that national-level follow-up could be most successful in Nicaragua, and possibly in Guatemala. These options should be further examined to consider the potential to strengthen policy incentives for CP/EE approaches within industry in Central America.

RECOMMENDATIONS AND LESSONS LEARNED

The White Paper has been a useful document for USAID and PROARCA II as background in orienting new programs. ARD has particularly found the paper valuable as it initiated the new phase of PROARCA. However, support to cleaner production in the region would be stronger with national level Mission participation.

The policy dialogue also deserves follow-up attention and support, however, this should be directed at the national level. For programs focused around cleaner production policy as well as financing, for example, more rapid results can be achieved through national pilot programs with the potential for replication. Regional activities of this nature are more valuable for sharing lessons learned than for actual program implementation given the very different local contexts in each country.

KEY DELIVERABLES:

1. Discussion Paper: Cleaner Production in Central America
2. Central America CP/EE Workshop
3. Trip reports

Task 3: Assist the LAC Bureau in preparing for and participating in several international conferences/summits

PRODUCE AN UPDATED USAID CLEANER PRODUCTION BROCHURE

Under this assignment, PA developed a comprehensive and fully up-to-date brochure on USAID-supported CP activities in the LAC region. PA requested input from the LAC Bureau, Missions, and several contractors to assemble and edit the information in a coherent format that includes country and regional programs, as well as topic-specific activities such as CP policy and financing. The brochure is available in English and Spanish and was first distributed at the USAID Environmental Officer's Meeting held in Panama City, Panama in June 2002. USAID will continue to disseminate the brochure during meetings with donors, CPCs, and other stakeholders.

FUND LAC REGION PARTICIPANTS TO MEETINGS AND CONFERENCES

1. Funded travel for Gerardo Velasco, General Manager of the Cámara Nacional de Industria (Bolivia), to attend the *New Venture's Investor Forum* in Angra dos Reis, Brazil from 4-5 October.
2. Funded travel for Carlos Arango, Director of the Cleaner Production Center of Colombia, to participate in the cleaner production strategy session, held at PA's offices in Washington from 30-31 October.

3. PA assisted to coordinate meetings in Washington for Gerardo Velasco in February 2002 while participating in a State Department study tour focused on looking at cleaner production and environmental management initiatives in the U.S. LAC leveraged this opportunity since international travel was funded by USAID/Bolivia while the domestic program was funded by the State Department.
4. Funded travel for nine Central American representatives from cleaner production centers, chambers of industry, and private companies (SMEs) to attend the *Taller Regional "Políticas de Producción Más Limpia y Eficiencia Energética en Centroamérica"* 21-22 March 2002 in Managua, Nicaragua.

ASSIST USAID IN PLANNING FOR MEETINGS AND CONFERENCES

PA assisted to conduct research and prepare the following presentations, coordinating with USAID/LAC and selected Missions:

1. Prepared presentation "USAID's Role in Fostering Cleaner Production in Latin America," given by Betsy Marcotte at the *Millennium One USAID Environmental Officer's Conference*, July 2001.
2. Conducted research and prepared the presentation "Environmental Trends in the LAC Region," for USAID internal meetings, August 2001.
3. Prepared presentation, "Cleaner Production: The USAID Experience", for delivery by Gil Jackson at the September *Mesa Redonda Para Prevención de La Contaminación*, Monterrey, Mexico, September 2001.
4. Prepared presentation "Cleaner Production: The USAID Experience," delivered by Gil Jackson for the State Department/Fulbright International Visitor Programs *Urban Environmental Solutions Program*, Washington, D.C., 20 November 2001.
5. Prepared presentation "Greening the Supplier Chain through Cleaner Production," delivered by Gilbert Jackson, USAID, at the World Environment Center's corporate meeting *Greening of the Mexican Industrial Supply Chain*, Mexico City, Mexico, 4 April 2002.
6. Leveraging USAID/Mexico funding, Prepared background paper "Supply Chain Environmental Management," for the World Environment Center's corporate meeting *Greening of the Mexican Industrial Supply Chain*, Mexico City, Mexico, 4 April 2002.
7. Prepared "USAID's Cleaner Production Experience in LAC", delivered by Gilbert Jackson to the Sociedad Nacional de Industrias, Lima, Peru, 2 May 2002.

8. Prepared “USAID’s Cleaner Production Experience in LAC: Opportunities and Challenges for Advancing Pollution Prevention in Mining”, delivered by Gilbert Jackson at the Environmental Law Institute Mining Conference, Lima, Peru, 3 May 2002.
9. Prepared presentation “USAID’s Cleaner Production Experience in LAC”, delivered by Gilbert Jackson, USAID, at the World Environment Center’s conference, *Promoting and Implementing Cleaner Production Projects at Manufacturing and Tourism Facilities*, Santo Domingo, Dominican Republic, 7-8 May 2002.
10. Prepared presentation “Connecting the Brown and the Green: USAID’s Role Promoting Cleaner Production in Latin America and the Caribbean” delivered by Gilbert Jackson, USAID, at the *USAID Environmental Officer’s Meeting*, Panama City, Panama, June 2002.

KEY DELIVERABLES:

1. USAID Cleaner Production brochure (English and Spanish)
2. Aforementioned presentations and background paper

Task 4: Continue expanding the base of information that is available in Spanish to support cleaner production activities in Latin America

UPDATE AND DISTRIBUTE CLEANER PRODUCTION CD-ROM

PA developed a Compact Disk-Read Only Memory (CD-ROM) that provides information on cleaner production approaches, methods, and technologies for use by cleaner production centers, non-governmental organizations, industry and trade associations, individual businesses and enterprises, government agencies, academic institutions, consultants, and other interested professionals in Latin America and the Caribbean. The CD-ROM is a significant update to the original CD produced in June 2000 under the Hemispheric Free Trade Expansion program. The compilation is a product of substantial research by PA to find case studies and cleaner production information from experiences worldwide so as to share best practices and knowledge with stakeholders in the LAC region.

The new information resource contains guides, case studies, and articles focused on pollution prevention for various industry and service sectors, as well as policy and financing information. Most of the documents are in PDF format for ease of accessibility. The CD also contains links to relevant Internet resources on pollution prevention. Each link and document is accompanied by a short description in English and Spanish. PA made every effort to include resources in Spanish where available,

but most of the Internet resources are in English. The CD is designed in a user-friendly website format and is easy to navigate with a common Internet browser.

PA distributed approximately 300 copies of the CD in 15 Latin American and Caribbean countries. PA disseminated the CDs among the Centers for Cleaner Production, but also directly sent the CD to USAID Missions, Chambers of Industry, and regional and multilateral organizations such as the U.N. Environment Programme and Inter-American Development Bank. For additional dissemination and accessibility, the CPC in Peru plans to upload the CD-ROM contents to its new website, which is expected to be launched in July 2002.

TEMPLATE FOR CLEANER PRODUCTION CASE STUDIES

The CPC in Bolivia created a template for cleaner production case studies and prepared nine examples, eight of which are included on the CD-ROM, with some also featured in the USAID CP brochure. Case studies included cleaner production projects with industrial plants in the following sub-sectors: tannery, beverage, brewery, sugar mill (2), dairy (2), meat processing, and chicken slaughterhouse. The case studies highlight the economic and environmental achievements for each company, and explain the technical approach taken to implement cleaner production measures.

This activity leveraged approximately \$56,000 of USAID/Bolivia Mission funds, and the case studies have been disseminated at numerous meetings and regional conferences (New Ventures Investor Forum in Brazil, CPC Regional Meeting in Colombia, among others). Comments from CPCs around the region have all be very positive given the quality of information provided in the well-structured layout. The CPC in Ecuador plans to duplicate this model for their own case studies.

KEY DELIVERABLES:

1. Developed new CD-ROM "Cleaner Production in Latin America and the Caribbean: An Information Resource" and disseminated approximately 300 throughout Latin America and the Caribbean (see separate distribution list)
2. Contents of Cleaner Production CD-ROM to be uploaded to CET-Peru's website
3. Nine CP case studies from Bolivia (in Spanish)

***Task 5: Provide assistance on mining issues in the Andean region
(Implemented by the Environmental Law Institute)***

LAUNCHING A DIALOGUE ON THE POLLUTION PREVENTION FRAMEWORK

Annual Conference of Mining Ministers (CAMMA) and Related Events

During the grant period, ELI worked extensively on promoting the adoption of the framework internationally. ELI advanced inclusion of key framework elements in the declarations and work plans adopted by the Mining Ministers of the Americas by educating, and coordinating, with the staff of the U.S. Bureau of Land Management (BLM). In several region-wide meetings and conferences, ELI presented the pollution prevention agenda directly to the Ministers and their staff.

On October 11, 2001, ELI presented, in partnership with the BLM, the United States Forest Service and the National Mining Association, a two-day symposium on "Sustainable Development: How Mining Plays a Role." The symposium, held in Las Vegas, immediately followed the Annual Conference of Mining Ministers (CAMMA) meeting in Vancouver. It was presented in conjunction with MINEXPO 2000 - the largest mining convention in the world, held every four years. Governmental officials from nearly 20 countries throughout the Americas, industry officials, NGO participants, and academics participated in the event, which was presented simultaneously in English and Spanish.

The Environmental Law Institute played a major role in the design of the program and selection of panelists. ELI Senior Attorney James McElfish presented the pollution prevention framework in the opening panel and as part of a panel on "Pollution Prevention" moderated by USAID's Gil Jackson. The Pollution Prevention panel included a presentation by ELI's partner, Manuel Pulgar-Vidal of the Sociedad Peruana de Derecho Ambiental (SPDA).

The presentations were extremely well received and engendered much discussion with the participants and attendees. Multiple copies of ELI's "Pollution Prevention and Mining: A Proposed Framework for the Americas" in English and Spanish were distributed at the workshop -- completely exhausting the supply.

Following the symposium, ELI continued to coordinate with Bob Anderson, Deputy Assistant Director of the Office of Minerals, Realty and Resource Protection in BLM, on promoting inclusion on pollution prevention concepts in the future declarations and action plans of CAMMA. The Canadian government invited ELI to participate in the CAMMA Pan-American Workshop on Mining and Communities, "Community Capacity Building and Sustainable Communities: Assessment of Opportunities and Challenges in the Americas," which was held on March 8-9, 2001 in Toronto. ELI Research Associate Kelly Mott attended this event. At the Experts Preparatory Meeting for the CAMMA meeting in Santiago, Chile (held June 19-22, 2001), BLM officials included materials from ELI's report, "Pollution Prevention and Mining: A Proposed Framework

for the Americas” in their presentation on mine closure issues. Once again, the recommendations in the report were well received and all the copies of the report made available were taken.

The ELI team then provided BLM with comments on a preliminary final draft of the Plan of Action, which was being prepared by the CAMMA Committee for Sustainable Development. ELI prepared comments on the draft declaration for the November 2001 CAMMA meeting in Santo Domingo, including recommendations for developing a mechanism for the public to participate in the meeting’s work groups and for hosting a workshop on legal and technical pollution prevention issues. These recommendations as well as ELI’s report on the pollution prevention framework were presented in Santo Domingo.

On February 1, 2002, ELI staff met BLM to discuss the results of the CAMMA meeting and explore future opportunities for ELI to work with CAMMA to promote pollution prevention in mining.

Mining, Minerals, and Sustainable Development Initiative (MMSD) and Related Events

ELI also advocated for elements of the pollution prevention framework to be included in agreements and statements currently being developed in other international fora such as the Mining, Minerals, and Sustainable Development (MMSD) Global Initiative and campaigns being organized internationally by the nongovernmental community. ELI participated extensively in workshops and roundtables organized by MMSD during the task period. In April 2001, Susan Bass participated in a MMSD meeting on the role of financial institutions. Ms. Bass participated in a MMSD scoping meeting in Toronto on March 14, 2001, to develop initiatives on public participation and access to information. Susan Bass also participated in a meeting hosted by MMSD in Santa Fe, New Mexico, on July 18, 2001 that explored voluntary initiatives to promote sustainable development. Ms. Bass’s presentation at this event discussed how voluntary certification efforts could be a tool for promoting pollution prevention.

ELI staff members Susan Bass and Marcos Orellana also promoted the pollution prevention framework at the Global Mining Initiative from May 12- 15, 2002 in Toronto. This event convened industry leaders, government officials, and NGOs for a dialogue on the future course of the industry. ELI worked with the conference organizers to put pollution prevention on the agenda. Marcos Orellana presented elements of the pollution prevention framework related to access to information and public participation to a subplenary session attended by over 100 persons. Also, copies of the ELI report on the pollution prevention framework were distributed. One industry representative commented that the report was extremely useful because it was written in a user friendly format for the mining sector.

ELI is also participating in a global mining campaign launched by the Mineral Policy Center . In November 2001, ELI’s Susan Bass and Visiting Scholar Marcos Orellana provided information on pollution prevention in mining at the International Meeting for

Building a Global Mining Campaign at Airlie House in Warrenton, Virginia. This event brought together mining activists from Central and South America as well as other parts of the world. As a result of this meeting, a global mining campaign was launched that will focus on reforming national and international institutions and policies applicable to the mining sector. ELI staff will continue to promote pollution prevention concepts in the context of this campaign.

ELI staff also worked to promote pollution prevention principles in the context of a voluntary global industry code of practice for the use of cyanide in the gold mining industry. The Code is being developed under the auspices of the United Nations Environment Programme and the International Council on Metals and the Environment (now the International Council on Mining and Metals). ELI's comments called on the developers of the code to include more pollution prevention approaches in the code, including better design of tailings dams and ponds.

Finally, ELI staff have also been coordinating with BLM officials on the agenda and declaration on mining issues for the World Summit on Sustainable Development. As a result of ELI's past efforts, BLM has been trying to have the term "pollution prevention" incorporated into the paragraph of the declaration on mining. Although BLM has yet to be successful in this effort, support from other U.S. agencies, such as USAID and USEPA, could help this effort.

PROMOTING IMPLEMENTATION IN ONE COUNTRY

Mining Company and Ministry Consultations

When ELI began work on this task to promote implementation of pollution prevention policies and practices in Peru, the political situation for legislative and policy reform was favorable. Subsequently, the problems with the Presidency significantly delayed action on this specific task. ELI monitored the political situation in Peru to determine the best course of action for promoting pollution prevention policies and practices in that country.

ELI's strategy was to reach out directly to the mining companies and associations to adopt key elements of the framework voluntarily as well as to support government initiatives in this area. The ELI team worked with partners in Peru to consult individually with mining companies and to organize a workshop to educate the companies about pollution prevention. The goal was to set in motion the process for adoption of key elements of the framework, including mechanisms for public participation in monitoring company operations.

In March 2001 ELI Inter-American Program Director Susan Bass traveled to Lima to meet directly with representatives of the Mining Ministry and local and international mining companies operating in Peru to build support for pollution prevention provisions in the revised regulations and to design specific activities for adopting the framework. The meetings were set up by Lorenzo de La Puente, a former ELI Visiting Scholar and

attorney with Estudio Grau, a law firm that represents both large and small mining companies, and Manuel Pulgar-Vidal of SPDA.

Buenaventura

The first meeting was with the Peruvian company, Buenaventura, which was in the international spotlight at that time when a major mercury accident occurred at the Yanacocha mine, a joint venture between Newmont and Buenaventura. The meeting was with Raul Benavides, head of the company, Jose Mogrovejo, environmental counsel and a former official from the Mining Ministry and Nicholas Cotts, the Environmental Affairs Manager at Newmont. Benavides noted that the company was first exposed to environmental practices when they partnered with Newmont a few years ago and that he would prefer there to be only minimal legislation on mining, with non-binding guidelines setting out best practices. In his view, guidelines can be dynamic and updated without political problems, whereas legislation can only set the lowest agreed upon standard. Each operating mine with Buenaventura was responsible for overseeing compliance and monitoring the community and was trying to introduce combined Environmental and Safety Systems. They had already introduced a pilot ISO 14000 system at one mine. In Mr. Benavides' view the main problem has been safety, not environment. Buenaventura has established a voluntary closure plan for Julcani even though no such plan was required by law. Mr. Cotts noted that Newmont had resisted using ISO 14000 as the model for its environmental management system but that the company was in the process of evaluating various systems. It already had a strong internal EMS system, which was being used at all facilities, and they use the EMS in the design phase to look at the use of different chemicals, processes and materials. Newmont was also examining technology that will remove mercury before it goes into the smelter.

Mr. Benavides invited ELI to present its report, "Pollution Prevention and Mining: A Proposed Framework for the Americas," to the Peruvian mining companies at the Mining Institute Auditorium and at meetings of the Mining Society. He also invited ELI to present the report at a major mining engineering conference July 2001 and at a major mining conference in September 2001 in Arequipa.

MILPO

Next, Ms. Bass met with Ernesto Zelayo, Corporate Operations Manager of MILPO. MILPO has operations in Peru and Chile. The company started focusing on environmental issues in the 1980's. They became interested in ISO 14000 when they were doing an administrative restructuring for the whole company. They believe ISO 14000 helped them reduce costs, strengthen their capacity-building efforts, design other management systems and implement their PAMA (environmental compliance plan) goal's. It took the company six months to implement ISO and one year until they were certified. The implementation cost was very heavy. They believe small companies could not bear the burden but they viewed the cost as an investment.

Mining Ministry/Mining Association

Ms. Bass then met with Julio Bonelli from the Mining and Energy Ministry and Carlos Aranda from Southern Peru and President of the Environmental Committee of Peru's National Society of Mining, Oil and Energy. They discussed social issues that arise when addressing the environmental impacts of artisanal and small scale mining, such as unemployment and poverty. However, they also discussed how the Peruvian government has tried to address the incorrect use of mercury by small-scale miners by presenting a different type of technology for the miners to use.

The Ministry was then working on draft legislation on mine closure plans, although there was a political decision pending over when to present the proposed law. There were problems with the economic issues and there were no specific provisions in the draft closure law for public participation. However, the Mr. Bonelli acknowledged that information must be provided to the public and the Ministry was working on information disclosure through other avenues such as the United Nations APELL project on contingency plans. They also explained how companies in Peru generally prefer to adopt the idea of environmental management first and then move towards certification under a system like ISO 14000. They also supported the idea of capacity building workshops involving companies that have hands on experience with ISO as well as companies that provide certification.

In September 2001, Byron Swift met with a representative of the interim Mining Minister in Peru to discuss pollution prevention issues, particularly the development of a pollution prevention strategy for the mining industry.

Antamina

Susan Bass also met with Steve Botts from *Compañía Antamina, S.A.*, which is famous in Peru because of the extensive stakeholder consultation process it undertook in connection with the original EIA for the project. The company conducted a series of road show consultations, at the suggestion of the shareholders and staff of Antamina, to present the project to the public. They distributed the project EIA to everybody on the theory that it is the lack of information that causes problems. They also have an environmental management system, required by the banks. Botts believes there is currently a need for legislative or regulatory action to require scoping, public meetings, and public opportunities to challenge an EIA. He believes that good regulations will provide shareholders and banks with a better picture of the company's operations. He was very anxious to collaborate with our project and have us visit Antamina.

These meetings were very insightful because they highlighted some important differences between the local and international companies and among the local companies themselves. The Peruvian-based companies appear more open to the ISO-14000 certification process than the international companies. The international companies appear more in favor than the Peruvian companies of the idea of setting standards in legislation in order to have a level and consistent operating environment.

Pollution Prevention Seminar

In May 2002, ELI convened a seminar “Opportunities and Challenges for Advancing Pollution Prevention in the Mining Sector in Peru” in Lima for promoting implementation of the framework. The law firm *Estudio Grau*, USAID, the *Sociedad Peruana de Derecho Ambiental* (SPDA), *Compañía Antamina S.A.*, the Costa-Rican based Latin American Center for Competitiveness and Sustainable Development (LACSD), and Peru’s National Society of Mining, Petroleum and Energy co-sponsored this event. A full report on the event is attached as Exhibit 1.

The seminar convened a multi-stakeholder group of government officials, industry representatives, and non-governmental organizations, and included a keynote speech from the Carlos Loret de Mola, the Director of CONAM. The panelists were: Luis De La Torre, Executive Director of the Cleaner Production Center; Gilbert Jackson of USAID; Lorenzo de la Puente with Estudio Grau; Manuel Pulgar-Vidal of SPDA; Julio Bonelli, Director of Environmental Affairs at the Ministry of Energy and Mines; Luis Barrenechea, Mayor of the Municipality of Huallanca, Carlos Aranda Arce, President of Environmental Affairs at the National Society of Mining, Petroleum, and Energy; and Steven Botts, Vice-President Environment, Health and Safety at Compañía Antamina Minera S.A. Former ELI Director of Training and current faculty member at LACSD, Lawrence Pratt, moderated the event, and was assisted by ELI Research Associate Verena Radulovic.

The panelists examined the current state of mining in Peru, legal and technological approaches for promoting pollution prevention, and community perspectives for achieving sound pollution prevention in mining. Mr. de la Puente and Mr. Pulgar Vidal presented the legal framework for pollution prevention. Gil Jackson, of USAID, explained how technological advances could assist companies in adopting pollution prevention plans and how cleaner production practices provide economic, social, and environmental benefits. Mr. Jackson also outlined USAID/LAC’s objectives in the region, which include training personnel to incorporate cleaner technology and complete audits; developing local clean production solutions to local mining problems; providing access to technical assistance; and creating fiscal incentives to spur clean technology adoption. Luis de la Torre, of the Clean Production Center, an organization that is co-sponsored by USAID, examined the necessary future steps that the industrial sector must take in order to achieve energy efficiency and maximize environmental protection. According to Mr. de la Torre, corporate responsibility must account for social, economic, and environmental consequences of a company’s action in order to respond to a growing demand from global consumers that products are socially and environmentally conscious. The presentation of the additional panelists are described in the attached report.

The seminar was well attended by numerous mining officials, including operations managers. In addition, Antena 3 Productions, a Peruvian cable company, filmed the event, which will be broadcast on Peruvian television.

International Gold Symposium

On May 16, 2002, ELI Visiting Scholar Marcos Orellana addressed a cross-section of Latin American mining companies at the 5th International Gold Symposium, in Lima. He served on the panel “Sustainable Development in Gold Mining”. Fellow panelists included the President of the World Gold Council and the Director of the Mining Department at the World Bank. Mr. Orellana discussed “Overcoming Asymmetries: A Prerequisite for Sustainable Development in Mining.” Mr. Orellana examined four different mechanisms for balancing power differentials between businesses and communities: law, pollution prevention, good neighbor agreements, and certification systems. He presented international law, national law, and extraterritorial application of environmental law for foreign direct investment as viable tools to promote sustainable development and explained how to achieve pollution prevention in mining through approaches such as reduction at source, recycling, financial guarantees for reclamation, and planning for closure. He then presented the case study of the good neighbor agreement at the Stillwater mine in Montana. Prepared by Senior Attorney Susan Bass and Jim McElfish at ELI, the case study analyzes how a good neighbor agreement, entered into between grassroots organizations and the mining company, can provide an important role for affected communities in promoting pollution prevention practices in the operations of the mine. In presenting certification as a tool to advance sustainable development, he highlighted different global efforts, such as the World Wildlife Fund-Placer Dome partnership in Australia and ELI, SPDA, and Oxfam’s efforts to involve communities in mining operations in the Andes. Finally, he discussed challenges that lie ahead for the mining industry and presented UNEP’s cyanide code, MMSD’s recommendations and the Global Mining Initiative, as well as the Washington Agreement on Gold, an agreement among the Central Banks of Europe to keep gold in reserves, to highlight new steps and initiatives that could advance sustainable development.

Jorge Falla, an attorney with Buenaventura, the largest Peruvian mining company, invited ELI to publish an article on pollution prevention and mining in the Environment and Sustainable Development’ section of the journal of the Peruvian Chamber of Mines, Energy and Petroleum. The article, entitled “Pollution Prevention: A Strategic Approach to the Mining Sector,” is scheduled for publication in June 2002. A draft copy was provided to USAID/LAC separately.

DEVELOPING LENDING CRITERIA LINKING TO P2 AND E2

In recent years, large lender institutions have begun to incorporate social and environmental guidelines into their lending practices. In particular, UNEP, MMSD and the World Bank joined together two years ago to explore the role of financial institutions in mining and sustainable development. During the task period, ELI worked to educate lenders on the advantages of incorporating pollution prevention criteria into their loans and developing lending criteria to promote these practices. ELI acted to increase

awareness as to the importance of implementing pollution prevention measures not just during the life of the loan, but also in the exploratory and due diligence process to prevent the occurrence of harmful environmental impacts. To this extent, ELI participated in numerous meetings and a workshop and also developed a handbook that will assist public and private financial institutions that provide funds or guarantee loans for mining operations in promoting pollution prevention policies, practices, and technology.

Susan Bass participated in the January 12, 2001 MMSD scoping meeting to examine the role of financial institutions in sustainable development (the case of mining). At this event, Ms. Bass advised representatives from the World Bank, UNEP and the MMSD as well as the NGO and government participants on the pollution prevention elements that should be taken into account in their joint initiative designed to identify the role of financial institutions in promoting sustainable development in the mining sector. Copies of ELI's pollution prevention framework report were also disseminated.

Susan Bass also participated a joint MMSD/World Bank/UNEP workshop on Finance, Mining and Sustainability April 8-9, 2001 in Washington, D.C. A copy of the agenda and list of participants is attached as Exhibit E. The Conference provided an opportunity to hear different perspectives on the role financial institutions and the mining sector itself should be playing on sustainable development as well as to meet representatives from the wide range of companies and institutions attending. ELI's report on pollution prevention and mining was circulated.

To prepare the handbook, ELI contacted various public and private financial institutions involved in the mining sector for their input, drawing upon our own contacts and the May 2000 report for USAID prepared by SAIC. The consultations explored which phases of the lending operation are the most important to have information on pollution prevention and what level of detail for the handbook would be most useful, as well as whether model language would be assistance. In the process, ELI also learned from lenders what policies and practices they have in place or rely on to promote pollution prevention during the financing of mining operations. ELI interviewed individuals that work specifically with environmental regulations and mining operations at Citigroup, Deutsche Bank and Rothschild Denver, as well as contacts at the World Bank and the Inter-American Development Bank. Ms. Bass also met with Bruce Rich from the Environmental Defense Fund, who has been working for many years on reforming the environmental policies and practices of the World Bank and the export credit agencies, and contacted Jeff Telego, of the Association of Environmental Bankers, to generate ideas about the handbook.

ELI also compiled and reviewed a list of environmental and mining guidelines from global, regional, and national institutions, as well as provisions already developed by select lender institutions, to develop lending criteria for pollution prevention energy efficiency in mining. ELI's worked with Lawrence Pratt from INCAE in Costa Rica to develop the business justification section of the handbook. Case studies for mining operations in the U.S. and Latin America, presenting environmental risks as well as

economic advantages of P2 practices, were prepared. Project finance attorney, Andrew Miller, also reviewed and contributed to the report.

LESSONS LEARNED AND NEXT STEPS

1. Accomplishments

One of the greatest barriers to pollution prevention in general in Latin America is the perception that there only costs and no benefits associated with these types of activities. Consequently, pollution prevention (P2) activities get lumped into the category of "all the things the regulatory authority wants me to do that will cost me money." As in the U.S., there has historically been little recognition that there are business-oriented drivers (savings, competitiveness issues) associated with P2.

This project's most important accomplishment was to articulate clearly to a wide and high-level audience that:

- there are many PROVEN P2 improvements that the private sector can and should be involved in without being forced to by regulatory authorities
- leading companies in Peru are achieving valuable results
- there are environmental and community-relations benefits that result from initiatives
- these activities will yield short and long-run benefits for the individual firms and the country's mining sector in general (reputational effects).

The final accomplishment is that the "stage is set" to take meaningful action, such as guidelines, regulations, incentive systems, P2 Funds or other mechanisms to make action more concrete.

2. Lessons learned

The general lack of understanding of P2 benefits is an important barrier to institutional response. Without greater awareness (much of which was achieved with key individuals and organizations by this process) industry will resist any efforts to institutionalize P2 on the grounds that is "more government control," even though it is they who would most benefit.

The other most important lessons to carry forward are:

- The positive experiences of similar firms (mining sector in Peru or other Latin American countries) need to be documented.
- The financial sector needs to be enlisted in promoting pollution prevention in the mining sector. The projected US\$25 billion in mining investment in Latin America in the coming decade or two will be financed significantly by the private sector,

and underwritten by overseas investment organizations and multilaterals. These organizations are increasingly aware of the risks in the sector and will insist on lower risk profiles than most organizations can currently offer. Failure to address environmental and community risk (largely through P2) risks severely restricting the growth potential of the companies and the sector overall.

- Governmental authorities will need a great deal of support in the design of different instruments (regulatory, incentive, information-based, and others) to ensure that P2 becomes an important and "flourishing" activity in Peru. There is a great risk of P2 turning into a burdensome and unattractive activity through poor program design, in spite of the obvious benefits to the company and the countries. The authorities will need specific support in building "positive" programs and incentives that promote many P2 activities.

3. *Next Steps*

Future initiatives for promoting P2 in the mining sector should:

- Document local or regional cases in the mining sector (with emphasis on specific activities, risk reduction, and benefits received in efficiency, risk, future competitive position and community relations).
- Communicate the wants and desires of future funders of mining activities. This would be an effort to map out what current and future trends say that Peru's mining sector needs to look like to be attractive to potential investors and their guarantors.
- Educate lenders about the economic advantages of P2 practices, through publication and dissemination of the ELI handbook, "Pollution Prevention and Mining: A Proposed Framework".
- Provide specific support to the governmental authorities on innovative mechanisms to stimulate P2 using non-regulatory or quasi-regulatory approaches that assist companies in realizing their own benefits. This could include environmental management, information-based, incentive, award, competitive and other types of programs that have proven to be effective in Latin America and elsewhere. Example: EMS training for companies and mining municipalities, public participation training for mining communities.